

## Nigeria Energy Sector Overview

Currently 95 million Nigerians (55%) do not have access to electricity and those that are connected suffer from extensive power outages. Although Nigeria has 12.5 GW of installed generation capacity, only 3500-5000 MW is typically available. The annual consumption of electricity per capita is among the lowest in Africa, estimated at less than 150 kWh. The lack of a reliable and affordable supply of electricity impacts every facet of life in Nigeria. Businesses routinely cite the cost of electricity as the principal drain on profitability and competitiveness. Schools and clinics often go without electricity or rely on costly diesel generators.

More than a decade ago, the Government of Nigeria embarked on three-phased structural reform that ultimately culminated in the privatization of the country's main generation and distribution assets. The Government of Nigeria is focused on sustaining a stable investment climate for private sector participation in the sector, expanding transmission and distribution networks to deliver power to customers, maintaining the bulk electricity trader as a creditworthy off-taker of electricity, establishing cost-reflective tariffs, and reducing inefficiency in support of affordable end-user tariffs.

## Power Africa Support

Power Africa played a key role assisting the Government of Nigeria and more specifically the Bureau of Public Enterprise to unbundle the Power Holding Company of Nigeria into six generation companies, ten distribution companies, and the Transmission Company of Nigeria. By providing technical assistance to the bulk trader (NBET), Power Africa also helped Nigeria's first private independent power producer (IPP), the Azura Edo project, reach financial close in 2015. The Overseas Private Investment Corporation (OPIC) invested \$50 million into Azura Edo on top of the \$150 million invested by Power Africa's private sector partner American Capital Energy. With construction underway, the project will add 450 MW to Nigeria's grid by late 2018.

More recently, Power Africa assisted the Government of Nigeria to finalize power purchase agreements for 14 utility-scale solar IPPs totaling over 1125 MW of power. These projects will help Nigeria diversify its energy mix, while attracting further interest in Nigeria's burgeoning solar market.

Building on a 2013 reverse trade mission with Nigeria's newly privatized distribution companies (DISCOs), USTDA is providing project preparation assistance for the Eko, Ikeja and Benin DISCOs, to support modernizing their networks and reducing technical and commercial losses, as well as identifying ways to increase collections. USAID has additional advisors working in the Abuja, Benin and Eko DISCOs to address management challenges. While this assistance is still ongoing, it has already resulted in the implementation of metering and other systems that can improve grid operations.

Without more generating capacity, it will be difficult to connect additional customers to the grid, but Power Africa is supporting off-grid options as well. With a \$15 million OPIC loan, Lumos Inc. is deploying rooftop solar panel kits to approximately 70,000 residential and small commercial customers in Nigeria using a lease-to-own model. In partnership with General Electric, the U.S. African Development Foundation and others, Power Africa has awarded nine \$100,000 grants to entrepreneurs for innovative, off-grid energy projects in Nigeria.

## Highlighted Transactions

Name	MW	Transaction Type	Value (USD)	Timeline	Power Africa Support	Government Actions
Azura — Edo Energy	450 MW	Greenfield open cycle gas to power project	\$856 million	<ul style="list-style-type: none"> <li>Financial Close Q4 2015</li> <li>Construction 2016-2018</li> <li>Operational 2018</li> </ul>	<ul style="list-style-type: none"> <li>Provided technical support to the Nigeria Bulk Electricity Trading Company (NBET), which led to the successful negotiation of the Power Purchase Agreement (PPA) and the Put Call Options Agreement (PCOA) for Azura Energy</li> <li>OPIC invested \$50 million, American Capital Energy Infrastructure invested \$150 million</li> </ul>	<ul style="list-style-type: none"> <li>Capitalization of the Bulk Trader</li> <li>Approval of the Put Call Options Agreement</li> <li>Approval of the Power Purchase Agreement</li> </ul>
Solar IPPs	1125 MW	14 Greenfield photovoltaic (PV) projects	\$1.5 billion	<ul style="list-style-type: none"> <li>PPAs signed July 2016</li> </ul>	<ul style="list-style-type: none"> <li>Provided technical support to the Nigeria Bulk Electricity Trading Company (NBET), which led to the successful negotiation of the Power Purchase Agreement (PPA)</li> <li>Assisting developers with securing financing</li> </ul>	<ul style="list-style-type: none"> <li>Approval of the Power Purchase Agreement</li> </ul>

### About Power Africa

Power Africa is a U.S. Government-led initiative launched by President Obama in 2013. Power Africa’s goals are to increase electricity access in sub-Saharan Africa by adding more than 30,000 megawatts of cleaner, more efficient electricity generation capacity and 60 million new home and business connections.

Power Africa works with public and private sector partners to remove barriers that impede sustainable energy development in sub-Saharan Africa and to unlock the substantial wind, solar, hydropower, natural gas, biomass, and geothermal resources on the continent.

### Mobilizing Partnerships & Investments

Power Africa draws on the combined expertise and abilities of 12 U.S. Government agencies, the World Bank Group, the African Development Bank, the Government of Sweden, the Government of Norway, the Government of Canada, the UK Department for International Development, the International Renewable Energy Agency, African governments, and private sector partners.

Power Africa’s “[Toolbox](#)” approach offers a range of resources to advance key projects on the electricity grid and, through the *Beyond the Grid* sub-initiative, in places where the national grid doesn’t reach.

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